

User's manual (short form)



NVIP-2DN5000V/IR-1P
NVIP-3DN5000V/IR-1P



NVIP-2DN5020V/IR-1P

NoVus®

IMPORTANT SAFEGUARDS AND WARNINGS

EMC (2004/108/EC) and LVD (2006/95/EC) Directives



Our products are manufactured to comply with requirements of the following directives and national regulations implementing the directives:

- Electromagnetic compatibility EMC 2004/108/EC.
- Low voltage LVD 2006/95/EC with further amendment. The Directive applies to electrical equipment designed for use with a voltage rating of between 50VAC and 1000VAC as well as 75VDC and 1500VDC.

WEEE Directive 2002/96/EC



Information on Disposal for Users of Waste Electrical and Electronic Equipment

This appliance is marked according to the European 1000VAC Directive on Waste Electrical and Electronic Equipment (2002/96/EC) and further amendments. By ensuring this product is disposed of correctly, you will help to prevent potential negative consequences for the environment and human health, which could otherwise be caused by inappropriate waste handling of this product.

The symbol on the product, or the documents accompanying the product, indicates that this appliance may not be treated as household waste. It shall be handed over to the applicable collection point for used up electrical and electronic equipment for recycling purpose. For more information about recycling of this product, please contact your local authorities, your household waste disposal service or the shop where you purchased the product.

RoHS Directive 2002/95/EC



Out of concern for human health protection and friendly environment, we assure that our products falling under RoHS Directive regulations, regarding the restriction of the use of hazardous substances in electrical and electronic equipment, have been designed and manufactured in compliance with the above mentioned regulations. Simultaneously, we claim that our products have been tested and do not contain hazardous substances whose exceeding limits could have negative impact on human health or natural environment

Information

The device, as a part of professional CCTV system used for surveillance and control, is not designed for self installation in households by individuals without technical knowledge.

Excluding of responsibility in case of damaging data on a disk or other devices:

The manufacturer does not bear any responsibility in case of damaging or losing data on a disk or other devices during device operation.

WARNING!

PRIOR TO UNDERTAKING ANY ACTION THAT IS NOT DESCRIBED FOR THE GIVEN PRODUCT IN USER'S MANUAL AND OTHER DOCUMENTS DELIVERED WITH THE PRODUCT, OR IF IT DOES NOT ARISE FROM THE USUAL APPLICATION OF THE PRODUCT, MANUFACTURER MUST BE CONTACTED UNDER THE RIGOR OF EXCLUDING THE MANUFACTURER'S RESPONSIBILITY FOR THE RESULTS OF SUCH AN ACTION.

IMPORTANT SAFEGUARDS AND WARNINGS

WARNING!

THE KNOWLEDGE OF THIS MANUAL IS AN INDISPENSIBLE CONDITION OF A PROPER DEVICE OPERATION. YOU ARE KINDLY REQUESTED TO FAMILIARIZE YOURSELF WITH THE MANUAL PRIOR TO INSTALLATION AND FURTHER DEVICE OPERATION.

WARNING!

USER IS NOT ALLOWED TO DISASSEMBLE THE CASING AS THERE ARE NO USER-SERVICEABLE PARTS INSIDE THIS UNIT. ONLY AUTHORIZED SERVICE PERSONNEL MAY OPEN THE UNIT

INSTALLATION AND SERVICING SHOULD ONLY BE DONE BY QUALIFIED SERVICE PERSONNEL AND SHOULD CONFORM TO ALL LOCAL REGULATIONS

1. Prior to undertaking any action please consult the following manual and read all the safety and operating instructions before starting the device.
2. Please keep this manual for the lifespan of the device in case referring to the contents of this manual is necessary;
3. All the safety precautions referred to in this manual should be strictly followed, as they have a direct influence on user's safety and durability and reliability of the device;
4. All actions conducted by the servicemen and users must be accomplished in accordance with the user's manual;
5. The device should be disconnected from power sources during maintenance procedures;
6. Usage of additional devices and components neither provided nor recommended by the producer is forbidden;
7. You are not allowed to use the camera in high humidity environment (i.e. close to swimming pools, bath tubs, damp basements);
8. Mounting the device in places where proper ventilation cannot be provided (e. g. closed lockers etc.) is not recommended since it may lead to heat build-up and damaging the device itself as a consequence;
9. Mounting the camera on unstable surface or using not recommended mounts is forbidden. Improperly mounted camera may cause a fatal accident or may be seriously damaged itself. The camera must be mounted by qualified personnel with proper authorization, in accordance with this user's manual.
10. Device should be supplied only from a power sources whose parameters are in accordance with those specified by the producer in the camera technical datasheet. Therefore, it is forbidden to supply the camera from a power sources with unknown parameters, unstable or not meeting producer's requirements;

Due to the product being constantly enhanced and optimized, certain parameters and functions described in the manual in question may change without further notice. We strongly suggest visiting the www.novuscctv.com website in order to access the newest manual

Data included in the following user's manual is up to date at the time of printing. AAT Holding Sp z o.o. holds exclusive rights to modify this manual. The producer reserves the rights for device specification modification and change in the design without prior notice.

TABLE OF CONTENTS

TABLE OF CONTENTS	4
1. FOREWORD INFORMATION	5
1.1. General Characteristics.....	5
1.2. Specification	6
1.3. Camera dimension	7
1.4. Package contents.....	8
2. START-UP AND INITIAL IP CAMERA CONFIGURATION	9
2.1. Description of connectors and control tools	9
2.2 Camera mounting.....	11
2.3. Focus and zoom adjustment.....	12
2.4. Starting the IP camera	13
2.5. Initial configuration via the Web browser.....	14
3. NETWORK CONNECTION VIA WEB BROWSER	15
3.1. Recommended PC specification for web browser.....	15
3.2. Connection with IP camera via web browser.....	15
4. WWW INTERFACE - WORKING WITH IP CAMERA	17
4.1. Displaying live pictures.....	17
5. ELECTRIC CONNECTORS AND ACCESORIES	19
5.1. Connecting power supply to the camera.	19
5.2. SD card installation	19
6. RESTORING FACTORY DEFAULTS	20
6.1. Restoring factory defaults by software means.....	20
6.2. Restoring hardware defaults by hardware means	20

FOREWORD INFORMATION

1. FOREWORD INFORMATION

1.1. General Characteristics

- Imager resolution: 2.0 megapixels (NVIP-2DN5000V/IR-1P, NVIP-2DN5020V/IR-1P)
Imager resolution: 3.0 megapixels (NVIP-3DN5000V/IR-1P)
- Mechanical IR cut filter
- IR operation capability
- Min. Illumination from
0,034 lx/F=2.2 (NVIP-2DN5000V/IR-1P)
0,007 lx/F=2.2 (NVIP-3DN5000V/IR-1P)
0,01 lx/F=1.2 (NVIP-2DN5020V/IR-1P)
- Digital Slow Shutter (DSS)
- Digital Noise Reduction (DNR)
- Lens type: Standard, f=3,6mm, F=2.2 (NVIP-2DN5000V/IR-1P, NVIP-3DN5000V/IR-1P)
Auto iris DC, f=3,3 ~ 12mm, F=1.2 (NVIP-2DN5020V/IR-1P)
- Built-in IR illuminator, 1 LED (NVIP-2DN5000V/IR-1P, NVIP-3DN5000V/IR-1P)
Built-in IR illuminator, 15 LEDs (NVIP-2DN5020V/IR-1P)
- Privacy zones: 5
- Compression: H.264, M-JPEG
- Max video processing resolution: 1920 x 1080 (NVIP-2DN5000V/IR-1P,
NVIP-2DN5020V/IR-1P)
2048x1536 (NVIP-3DN5000V/IR-1P)
- Triple streaming: resolution, speed and quality defined individually for each video stream
- RTP/RTSP protocol support for video transmission
- Pre & post-alarm functions
- Hardware motion detection
- Built-in webserver: camera configuration through the website
- MicroSD/SDHC card support
- Wide range of responses to alarm events: e-mail with attachment, saving file on FTP server, saving file on NAS, saving file on SD card
- Network protocol support : HTTP, TCP/IP, IPv4/v6, UDP/IP, RTSP, FTP, DHCP, NTP, PPoE, SMTP
- Software: NMS (NOVUS MANAGEMENT SYSTEM) for video recording, live monitoring, playback and remote IP devices administration
- Power supply: 12VDC, PoE (Power over Ethernet)

FOREWORD INFORMATION

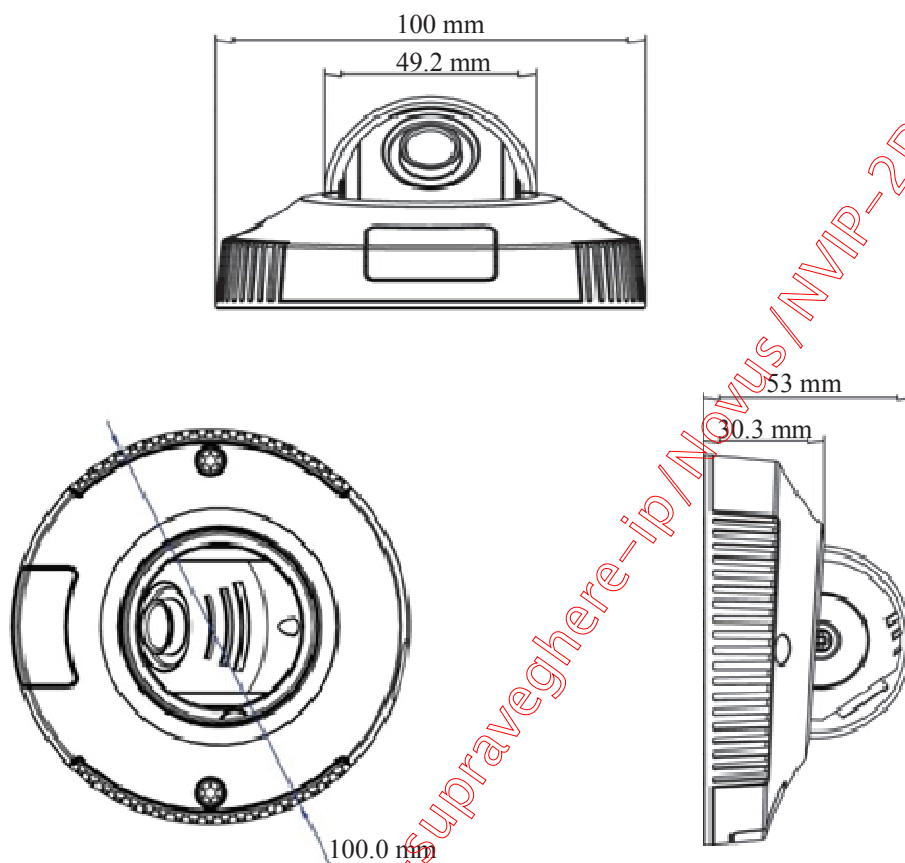
1.2. Specification

NVIP-2DN5000V/IR-1P		NVIP-3DN5000V/IR-1P		NVIP-2DN5020V/IR-1P	
IMAGE					
Pick-up Element	2 MPX, CMOS imager, 1/2.8"		3 MPX, CMOS imager, 1/3"		2 MPX, CMOS imager, 1/2.8"
Number of Effective Pixels	1920 (H) x 1080 (V)		2048 (H) x 1536 (V)		1920 (H) x 1080 (V)
Min. Illumination	0.34 lx/F=2.2 - color mode, 0.034lx/F=2.2 - color mode DSS, 0 lx - IR on		0.7 lx/F=2.2 - color mode, 0.007 lx/F=2.2 - color mode DSS, 0 lx - IR on		0.1 lx/F=1.2 - color mode, 0.01 lx/F=1.2 - B/W mode DSS, 0 lx - IR on
Digital Slow Shutter (DSS)	x 5				
Digital Noise Reduction (DNR)	Yes				
LENS					
Type	Standard, f=3,6 mm/F=2.2				Auto iris DC, f=3.3 ~ 12 mm/ F=1.2
Angle of View (H)	83°		73°		85° ~ 35°
DAY/NIGHT					
Type	Mechanical IR cut filter				
Switching Mode	Auto/manual				
NETWORK					
Stream Resolution	1920 x 1080 (HD 1080p), 1280 x 720 (HD 720p), 640 x 360		2048 x 1536, 1920 x 1080 (HD 1080p), 1280 x 720 (HD 720p), 640 x 360		1920 x 1080 (HD 1080p), 1280 x 720 (HD 720p), 640 x 360
Frame Rate	30 fps for 1920 x 1080 and lower resolutions		20 fps for 2048x1536, 30 fps for 1920 x 1080 and lower resolutions		30 fps for 1920 x 1080 and lower resolutions
Multistreaming Mode	3 streams				
Video/Audio Compression	H.264, M-JPEG/G.711, RAW_PCM				
Number of Simultaneous Connections	Max. 10				
Network Protocols Support	HTTP, TCP/IP, IPv4/v6, UDP/IP, RTSP, FTP, DHCP, NTP, PoE, SMTP				
PC Software	NOVUS NMS, Internet Explorer, Google Chrome, Opera, Mozilla Firefox				
OTHER FUNCTIONS					
OSD	IE browser, Polish, English, Russian				
Privacy Zones	5				
Motion Detection	Yes				
Prealarm/Postalarm	5 MB / 86400 s				
System Reaction to Alarm Events	E-mail, saving file on FTP server, saving file on NAS, saving file to SD card				
IR LED					
Number	1			15	
Range	6 m			20m	
Angle	90°			120°	
INTERFACES					
Video Output	BNC, 1.0 Vp-p, 75 Ohm - maintenance only				
Audio Input/Output	1 x RCA/I x RCA				
Network Interface	1 x Ethernet - RJ-45 interface, 10/100 Mbit/s				
Memory Card Slot	Yes				
INSTALLATION PARAMETERS					
Dimensions (mm)	100 (Ø) x 53 (H)			105,5 (Ø) x 120 (H)	
Weight	320 g			779 g	
Enclosure	Vandal proof, white, aluminium, polycarbonate dome			Vandal proof, white, aluminium	
Power Supply	PoE, 12 VDC				
Power Consumption	5 W, 7 W (IR on)			5 W, 9 W (IR on)	
Operating Temperature	-10°C ~ 55°C				
Degree of protection	IP 66				

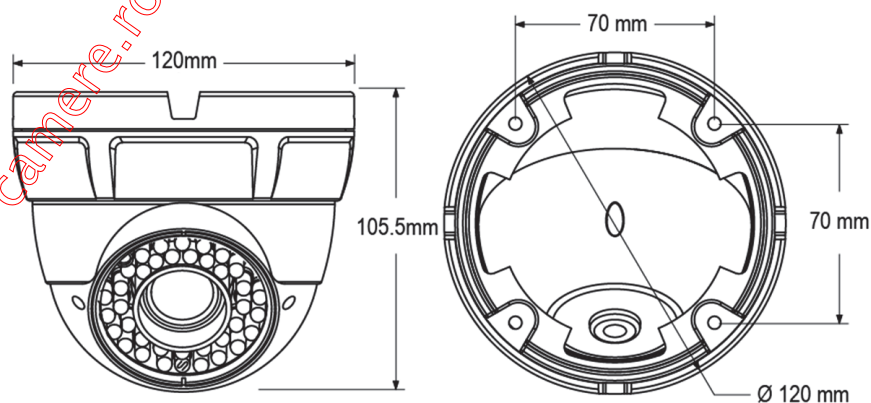
FOREWORD INFORMATION

1.3. Camera dimensions

Cameras NVIP-2DN5000V/IR-1P, NVIP-3DN5000V/IR-1P



Camera NVIP-2DN5020V/IR-1P



FOREWORD INFORMATION

1.4. Package contents

After you open the package make sure that the following elements are inside:

- IP camera
- Accessories bag
- RJ-45 Coupler
- BNC Test Cable
- Short version of user's manual
- CD containing manual and software
- Mounting template

If any of these have been damaged during transport, pack all the elements back into the original box and contact your supplier for further assistance.

CAUTION!

If the device was brought from a location with lower temperature, please wait until it reaches the temperature of location it is currently in. Turning the device on immediately after bringing it from a location with lower ambient temperature is forbidden, as the condensing water vapour may cause short-circuits and damage the device as a result.

Before starting the device familiarize yourself with the description and the role of particular inputs, outputs and adjusting elements that the device is equipped with.

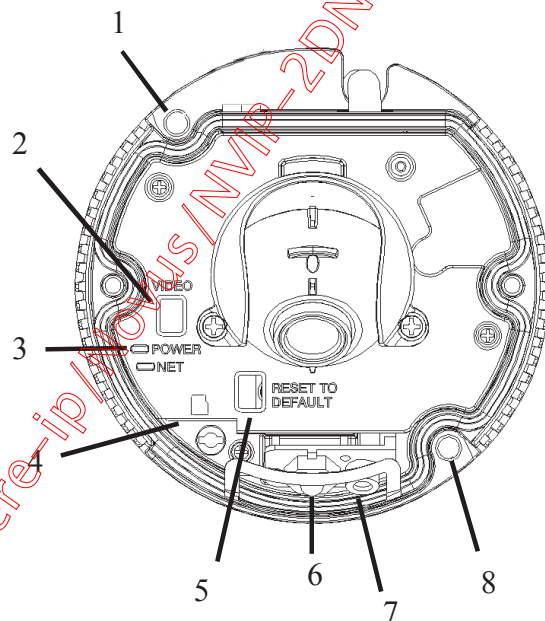
START-UP AND INITIAL CAMERA CONFIGURATION

2. START-UP AND INITIAL IP CAMERA CONFIGURATION

2.1. Description of connectors and control tools

Cameras NVIP-2DN5000V/IR-1P, NVIP-3DN5000V/IR-1P

1. Mounting screw hole
2. Analog output - maintenance only
3. Status LED's
4. microSD card slot
5. Reset button
6. IR LED
7. Light sensor
8. Mounting screw hole



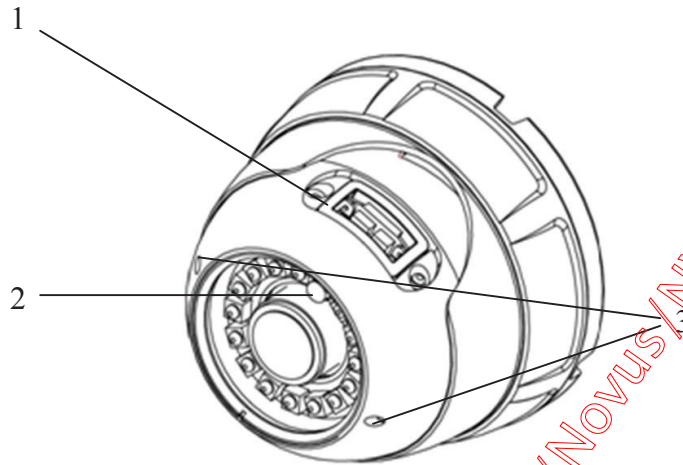
Cable overview with connectors description:

1. 100 Mb/s Ethernet port (RJ-45 connector)
2. Audio Input (RCA)
3. Audio Output (RCA)
4. Power supply DC12V



START-UP AND INITIAL CAMERA CONFIGURATION

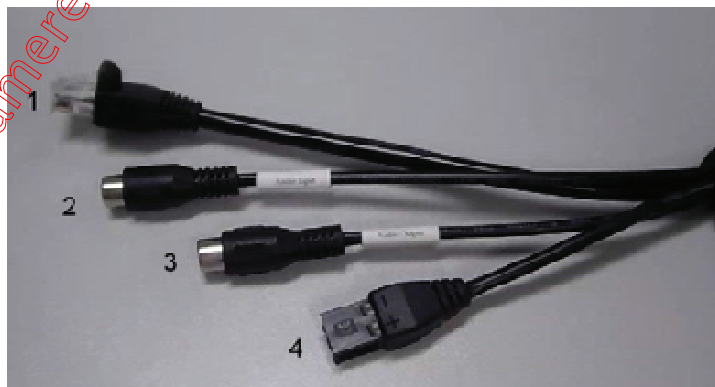
Camera NVIP-2DN5020V/IR-1P



1. Access panel with microSD card slot, status LEDs, camera reset and service video
2. Light sensor
3. Lens Zoom & focus adjust

Cable overview with connectors description:

1. 100 Mb/s Ethernet port (RJ-45 connector)
2. Audio Input (RCA)
3. Audio Output (RCA)
4. Power supply DC12V

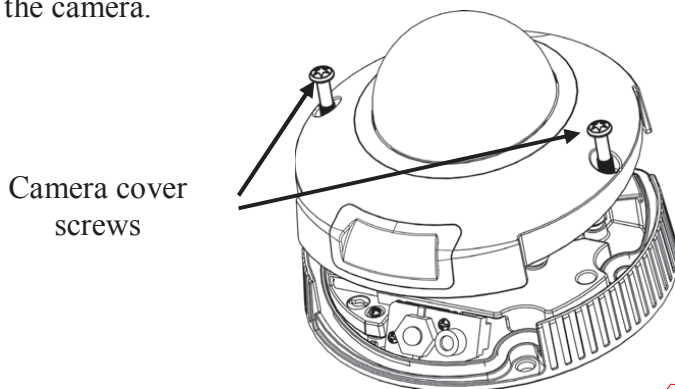


START-UP AND INITIAL CAMERA CONFIGURATION

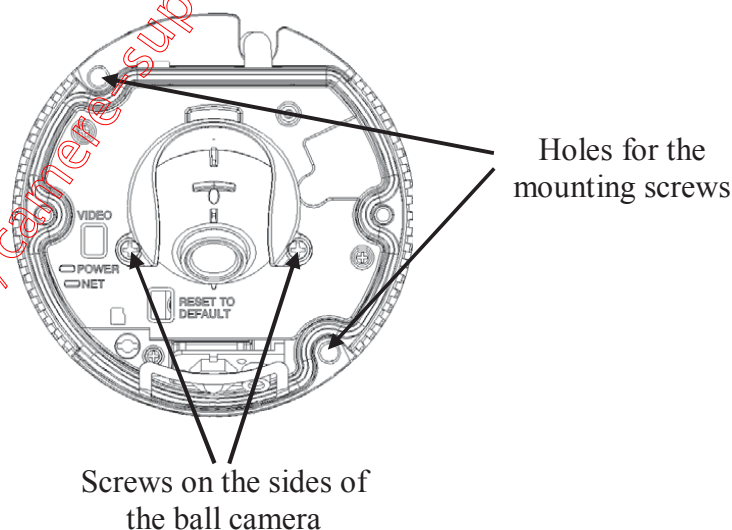
2.2. Camera mounting

Cameras NVIP-2DN5000V/IR-1P, NVIP-3DN5000V/IR-1P

1. Use the included allen key to remove the camera cover screws (2x). Lift the cover away from the camera.



2. Use the included mounting template or the camera to mark holes for the mounting screws.
3. Mount the camera to the surface using the included mounting screws (2x).
4. If you need to adjust the viewing angle, loosen the screws on the sides of the ball camera and adjust the ball camera. Do not remove the screws holding the ball camera. Tighten the screws when finished.

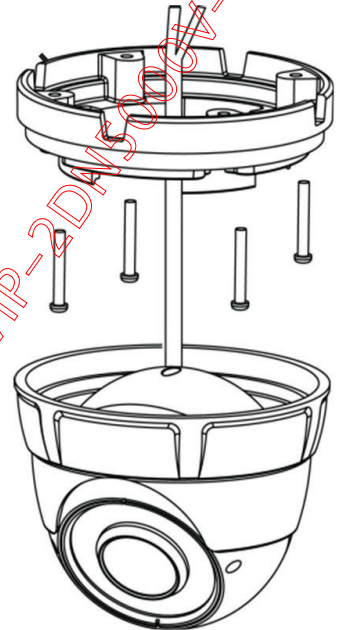


5. Ensure the rubber gasket inside the camera is properly in place, then replace the camera cover and the camera cover screws (2x).

START-UP AND INITIAL CAMERA CONFIGURATION

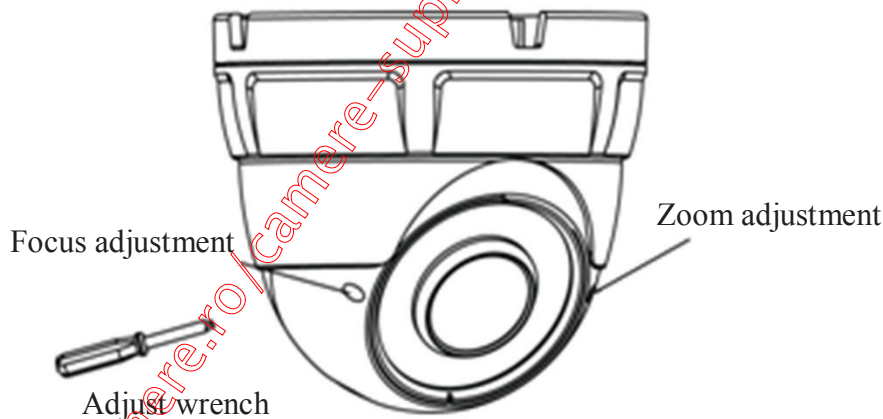
Camera NVIP-2DN5020V/IR-1P

1. Remove camera base by turning it counter-clockwise.
2. Use the included mounting template or the camera base plate to mark holes for mounting screws.
3. Mount the camera to the surface using the included mounting screws (4x).
4. Refit camera into base and adjust position as needed.
5. If you need to adjust the viewing angle, loosen the screws on the sides of the ball camera and adjust the ball camera.. Tighten the cover when finished
6. Adjust camera zoom focus. Use service video cable for BNC output.
Adjust the focus zoom with small flat blade.



2.3 Zoom and focus adjustment

Function available only for NVIP-2DN5020V/IR-1P camera.



Adjust the focus zoom with small flat blade. If needed, use service video cable for BNC output.

START-UP AND INITIAL CAMERA CONFIGURATION

2.4. Starting the IP camera

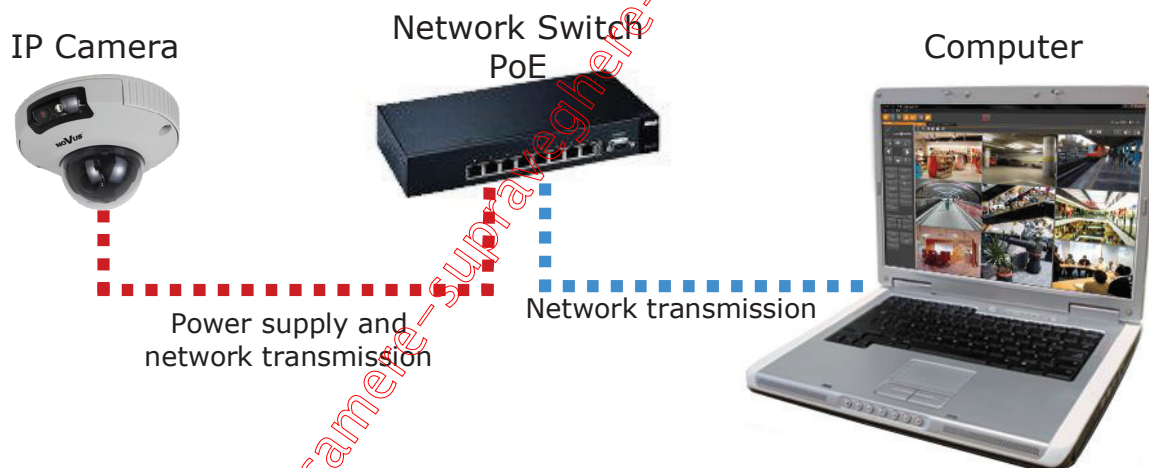
To run NOVUS IP camera you have to connect ethernet cable between camera and network switch with PoE support (IEEE 802.3af).

You can also connect it directly via power supply adapter with parameters compatible with camera power supply specification.

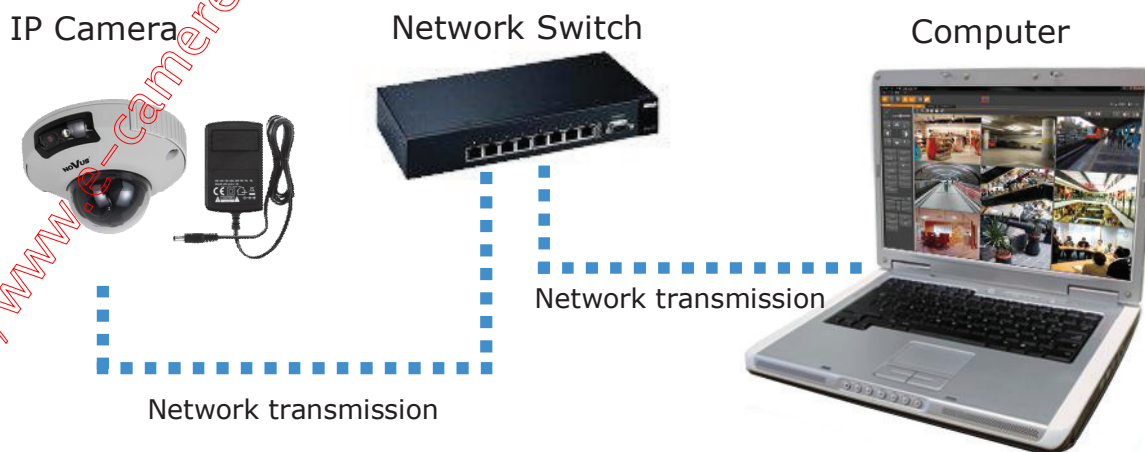
After connecting power supply initialization process is started, which takes about 2 minutes.

The recommended way to start an IP camera and perform its configuration is connect directly to the network switch which is not connected to other devices. To obtain further information about network configuration parameters (IP address, gateway, network mask, etc.) please contact your network administrator.

- Network connection using switch with PoE support

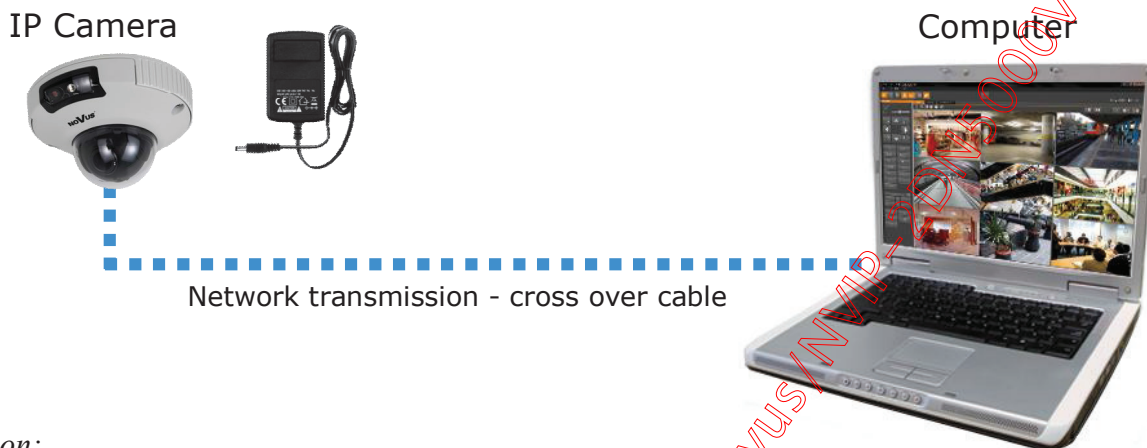


- Network connection using switch and external power supply.



START-UP AND INITIAL CAMERA CONFIGURATION

- Network connection using external power supply, directly to the computer.



Information:

Power supply adapter is not included. Please use power adapter with parameters specified in user's manual.

Caution:

In order to provide protection against voltage surges/lightning strikes, usage of appropriate surge protectors is advised. Any damages resulting from surges are not eligible for service repairs.

2.5. Initial configuration via the web browser

The default network settings for NVIP-... IP camera series are :

1. IP address= **192.168.1.200**
2. Network mask - **255.255.255.0**
3. Gateway - **192.168.1.1**
4. User name - **root**
5. Password - **pass**

Knowing the camera's IP address you need to set PC IP address appropriately, so the two devices can operate in one network subnet (e.g. for IP 192.168.1.1, appropriate address for the camera is from range 192.168.1.2 to 192.168.1.254, for example 192.168.1.60). It is not allowed to set the same addresses for camera and PC computer

You can either set a network configuration (IP address, gateway, net mask, etc.) of NOVUS IP camera yourself or select DHCP mode (DHCP server is required in this method in target network) by using web browser or by NMS software. When you use DHCP server check IP address lease and its linking with camera MAC address to avoid changing or losing IP address during device operation or network/DHCP server breakdown. You have to remember to use a new camera IP address after changing network parameters.

After network setting configuration has been done, the camera can be connected to a target network.

NETWORK CONNECTION VIA WEB BROWSER

3. NETWORK CONNECTION VIA WEB BROWSER

3.1. Recommended PC specification for web browser connections

Requirements below apply to connection with an IP camera, assuming image display in 1920x1080 resolution and 25 fps speed.

1. CPU **Intel Pentium IV 3 GHz** or newer
2. **RAM** Memory min. **512 MB**
3. VGA card (any displaying **Direct 3D with min. 128 MB RAM** memory)
4. OS **Windows XP / Windows Vista / Windows 7 / Windows 8**
5. **Direct X** version **9.0** or newer
6. Network card **10/100/1000 Mb/s**

3.2. Connection with IP camera via the web browser

You have to enter camera IP address in the Internet browser address bar. If IP address is correct user login window will be displayed:

Default user is **root** and default password is **pass**.

In the *Language* box you can change the display language (English, Polish or Russian). The default language is English.

For safety reasons, it is recommended to change default user name and password.

It is possible to connect to the camera using Internet Explorer, Mozilla Firefox, Chrome or Opera browsers. Running the IP camera in this browsers are very similar.

NETWORK CONNECTION VIA WEB BROWSER

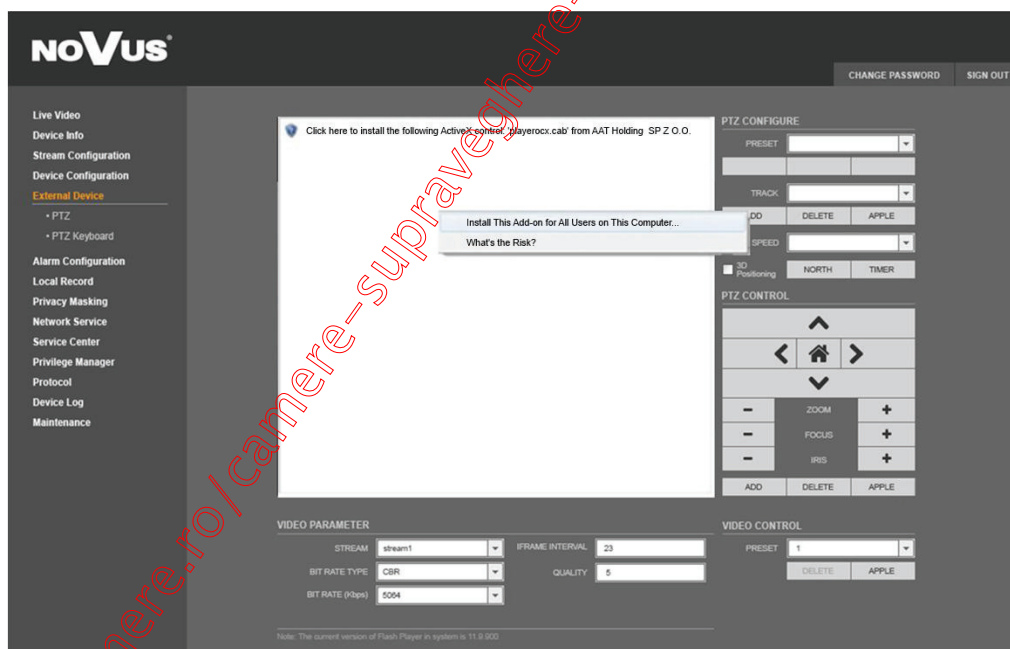
If your computer has Flash Player installed, the main screen for the camera web interface opens. From here you can view and configure the camera.

NOTE: If your computer does not have Flash Player installed, you will be prompted to select if you would like to use ActiveX or Flash Player to connect to the camera:

[Click here to shift playing live video with short delay widget!](#)



- Click [Click here to shift playing life video with short delay widget!](#) to play live video with ActiveX control to reduce latency (recommended): Uses an ActiveX plug-in to connect to the camera. To install the plug-in, click on the video area, and select *Install this Add-on for all users on this computer*, and follow the prompts.



NOTE: Please open the *Security settings* of IE browser, and enable the *Download unsigned ActiveX controls*.

- Click [Please download the latest version of Flash Player](#) to play live video: Opens a link to download Flash Player from Adobe's website. After completing the installation, restart your browser and reconnect to the camera.

NOTE: When working in Windows Vista/7/8 the ActiveX applet may be blocked by Windows Defender or User account control. In such case you should allow to run this applet, or simply disable these functions.

WWW INTERFACE - WORKING WITH IP CAMERA

4. WWW INTERFACE - WORKING WITH IP CAMERA

4.1. Displaying live pictures



1. Camera settings

- | | |
|----------------------|---|
| Live Video | - Live video preview |
| Device Info | - Device information |
| Stream Configuration | - Video and audio settings for each stream |
| Device Configuration | - Device configuration (e.g. Local Network, Date&Time) |
| External Device | - External device configuration (function unavailable) |
| Alarm Configuration | - Alarm Configuration (Motion alarm, Alarm I/O) |
| Local Record | - Local Record Configuration |
| Privacy Masking | - Configuration up to 5 privacy masks |
| Network Service | - Network services configuration (e.g. DDNS) |
| Service Center | - Service center configuration (e.g. SMTP) |
| Privilege Manager | - Users and groups management |
| Protocol | - Protocols settings (e.g. ONVIF) |
| Device Log | - Device Log contains: Operation Log, Alarm Log and Collect Log |
| Maintenance | - Device Restart and restoring Default Settings |

WWW INTERFACE - WORKING WITH IP CAMERA

2. Video Parameter

- | | |
|------------------|--|
| Stream | - Stream ID (choose one from available streams) |
| Bite Rate Type | - Bit rate type |
| Bit Rate (kbps) | - Bit rate |
| I Frame Interval | - I frame interval |
| Quality | - Quality |
| USE TIME STAMP | - Video buffer (increases delay when enabled, maximum delay is 5s) |

NOTICE: *USE TIME STAMP* function will not be available when using Flash instead of Activex.

3. Camera Control

Function unavailable.

4. Menu bar

- | | |
|-----------------|-------------------------|
| Change Password | - Change users password |
|-----------------|-------------------------|

NOTICE: Default password "pass" can be restored only after restoring default settings of the camera)

- | | |
|----------|-----------------------|
| Sign Out | - Log out from camera |
|----------|-----------------------|

5. Video Control

- | | |
|------------|--------------------------------------|
| Camera | - Default number of the camera is 1. |
| Video | - Turn on/off video |
| Audio | - Turn on/off audio |
| Interphone | - Turn on/off Interphone |

NOTICE: *Audio and Interphone* functions will not be available when using Flash instead of Activex.

eng

ELECTRIC CONNECTORS AND ACCESORIES

5. ELECTRIC CONNECTORS AND ACCESORIES

5.1. Connecting power supply to the camera.

Camera can be supplied using external power supply unit corresponding with the camera parameters or by using RJ45 network socket and PoE (IEEE 802.3at) power supply unit.

Information:

Power supply adapter is not included. Please use power adapter with parameters specified in user's manual.

Caution:

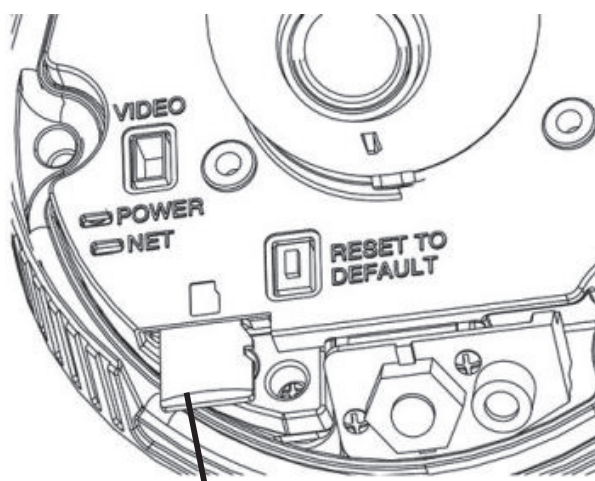
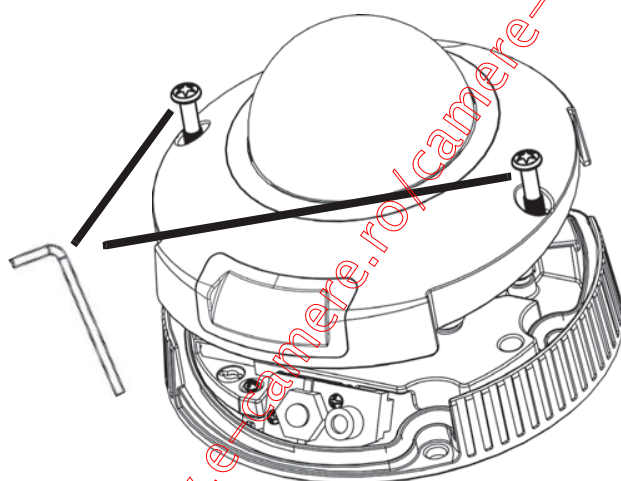
In order to provide protection against voltage surges/lightning strikes, usage of appropriate surge protectors is advised. Any damages resulting from surges are not eligible for service repairs.

5.2. SD card installation

Camera supports SD/SDHC cards up to a maximum size of 64GB. SanDisk™ or Kingston™ brand microSD cards are recommended. In order to install the card properly, please follow the instructions below:

For cameras NVIP-2DN5000V/IR-1P, NVIP-3DN5000V/IR-1P

- Turn the camera off
- Unscrew two screws holding camera cover using allen key and remove camera cover.
- Mount SD card in the socket located at the camera's base, according to the picture:

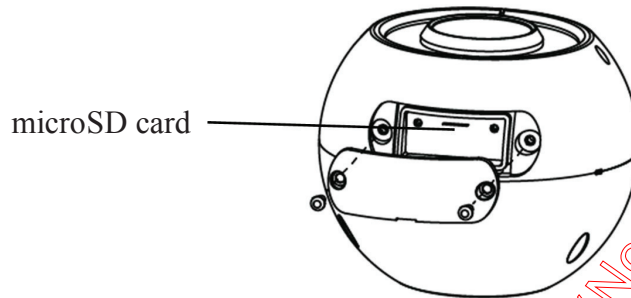


- Mount camera cover and screw to camera base.
- Turn the camera on
- Check the SD card by checking its capacity in the *Local Record* -> *Record Directory* tab.

ELECTRIC CONNECTORS AND ACCESORIES

NVIP-2DN5020V/IR-1P

- Turn the camera off
- Unscrew two screws holding panel and remove it.
- Mount SD card in the socket located at the camera's base, according to the picture:



- Mount panel cover.
- Turn the camera on
- Check the SD card by checking its capacity in the *Local Record* -> *Record Directory* tab.

6. RESTORING FACTORY DEFAULTS

NOVUS IP cameras allow to restore defaults via:

- Software (web browser level)
- Hardware (using reset button)

6.1. Restoring factory defaults by software means

User can restore default settings of the IP camera except network settings (optional). To restore to default settings go to: *Maintenance* -> *Device Restart* tab. Process of restoring takes about one minute.

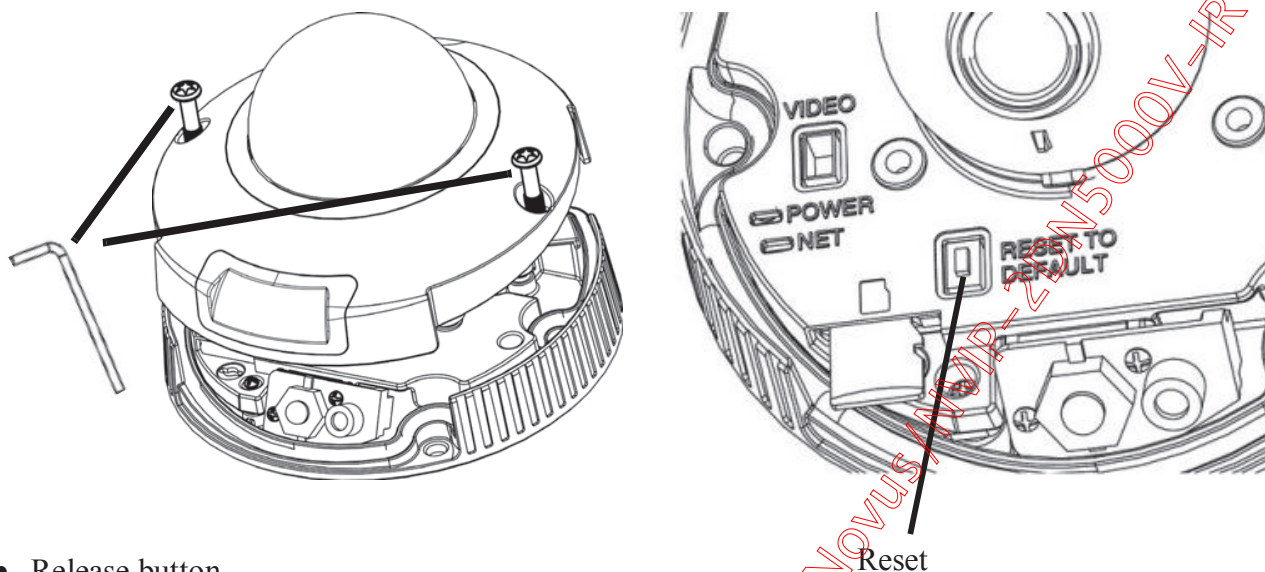
6.2. Restoring factory defaults by hardware means

In order to restore factory defaults for the camera please follow the instructions:

For cameras **NVIP-2DN5000V/IR-1P, NVIP-3DN5000V/IR-1P**

- Unscrew two screws holding camera cover using allen key and remove camera cover.
- Press the *RESET* button and hold on for 5 seconds

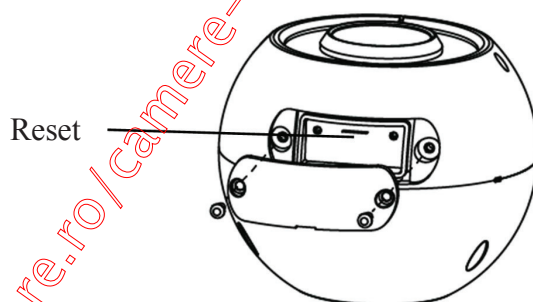
RESTORING FACTORY DEFAULTS



- Release button
- Mount camera cover and screw to camera base.
- Log on after approx. 2 minutes using default IP address (<http://192.168.1.200>) and default user name (root) and password (pass)

Camera NVIP-2DN5020V/IR-1P

- Unscrew two screws holding panel and remove it.



- Press the *RESET* button and hold on for 5 seconds
- Release button
- Mount panel cover.
- Log on after approx. 2 minutes using default IP address (<http://192.168.1.200>) and default user name (root) and password (pass)